

REMARKS/ARGUMENTS

I. General Remarks and Disposition of the Claims.

Claims 21-39 remain pending in this application. Claims 21 and 26-38 are currently amended herein. Claim 25 has been cancelled herein. Claims 64 and 65 are new. Applicants respectfully request that the above amendments be entered, and further request reconsideration in light of the amendments and remarks contained herein. Antecedent basis for these amendments can be found throughout the specification. In particular, support for the amendments may be found in at least paragraph [025] of the Specification.

II. Remarks Regarding Rejection of Claims Under 35 U.S.C. § 102.

The Examiner has rejected claims 21, 22, 25-31, 33-37, and 39 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,645,769 to Tayebi, *et al* (hereinafter “*Tayebi*”). (Office Action at 2.) With respect to this rejection the Examiner stated:

Tayebi discloses the claimed method, comprising detecting the flow of hydrocarbon in a subterranean formation by introducing a first tracer into one zone, introducing a second tracer into a second zone, and detecting the tracers downstream, where the tracers have unique characteristics. See abstract. The tracers may be fluorescent; see column 7 line 19. A fluorimeter/colorimeter may be used (column 12 lines 6-39). The tracer may be a dye in the blue absorption/emission spectrum; see column 13 lines 27-34. The tracer may be coated (covalently bound) or 100% encapsulated (through polymer emulsion) with a polymer such as a polystyrene which may be in a gel concentrate form, may be selectively degradable, and water insoluble; see columns 7-9.

(Office Action at 2.) Applicants respectfully disagree because *Tayebi* does not disclose, expressly or inherently, every element recited in the subject claims as required to anticipate the claims under 35 U.S.C. § 102(b). MANUAL OF PATENT EXAMINING PROCEDURE § 2131 (2004) (hereinafter “MPEP”).

In particular, independent claim 21, as amended, recites “a tracer matrix that comprises a photoactive material and a nondegradable polymeric material.” Nowhere does *Tayebi* disclose or suggest this recitation. Rather than disclosing nondegradable polymeric tracer matrixes, *Tayebi* discloses degradable tracer matrixes. (*Tayebi*, 6:25-32; 7:35-38; 8:63; 9:29; 10:55-60) “The tracers release mechanism could be a degradation process of the matrix holding

the tracers by weak forces or degradation of the link or links between tracers and the reservoir formation or packing material.” (*Tayebi*, 6:29-32)

Moreover, *Tayebi*’s disclosure of encapsulation polymers for tracer matrixes that are degradable is inapposite and, in fact, teaches away from Applicants’ claimed invention. (See Specification, ¶[025]) (“the polymeric material . . . should not be subject to degradation in the chosen application.”) The nondegradable polymeric material of the Applicants’ invention “protects the photoactive material from degradation downhole due to conditions such as harsh chemical environments, high temperatures, and/or other hostile conditions that might otherwise degrade its photoactivity.” (Specification, ¶[020]) Accordingly, *Tayebi* does not disclose or suggest a tracer matrix comprising a nondegradable polymeric material, and thus does not disclose or suggest every element of independent claim 21.

Therefore, independent claim 21 is not anticipated by *Tayebi*. The remaining rejected claims depend either directly or indirectly on independent claim 21. All these dependent claims, which include all the limitations of their corresponding independent claim, are allowable for at least the reasons cited above with respect to independent claim 21. Accordingly, Applicants respectfully request withdrawal of this rejection with respect to claims 21, 22, 25-31, 33-37, and 39.

III. Remarks Regarding Rejection of Claims Under 35 U.S.C. § 103.

A. Claims 23 and 24 Are Not Obvious Over *Tayebi* in View of *McKay*.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tayebi* in view of U.S. Patent No. 2,932,741 to *McKay* (hereinafter “*McKay*”). (Office Action at 3.) Applicants respectfully disagree because the Examiner has not established a *prima facie* case of obviousness, in that the cited references do not disclose, expressly or inherently, each and every claim limitation. See MPEP § 2142.

In particular, independent claim 21 recites “a tracer matrix that comprises a photoactive material and a nondegradable polymeric material.” As discussed previously in Section II, rather than disclosing a nondegradable polymeric material, *Tayebi* is directed to a tracer matrix comprising a degradable material. Accordingly, *Tayebi* does not teach or suggest tracer matrix comprising a nondegradable material. Moreover, *Tayebi* clearly teaches away from the present invention. The Examiner must consider “[a] prior art reference . . . in its entirety, i.e.,

as a whole, including portions that would lead away from the claimed invention.” MPEP § 2141.02. Thus, even if *McKay* teaches the use of fluorescein as the fluorescent tracer in a subterranean flow rate measurement system for petroleum production, *Tayebi* in combination with *McKay* does not teach a tracer matrix comprising a nondegradable polymeric material. Accordingly, *Tayebi* in view of *McKay* does not teach or suggest each and every limitation of claim 21.

Thus, Applicants respectfully assert that the combination of *Tayebi* and *McKay* fails to form a valid basis for a *prima facie* case of obviousness as to independent claim 21, and correspondingly, as to dependent claims 23 and 24. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 103(a) rejection as to dependent claims 23 and 24.

B. Claim 32 Is Not Obvious Over *Tayebi*.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Tayebi*. (Office Action at 4.) Applicants respectfully disagree because the Examiner has not established a *prima facie* case of obviousness, in that the cited references do not disclose, expressly or inherently, each and every claim limitation. See MPEP § 2142.

In particular, independent claim 21 recites “a tracer matrix that comprises a photoactive material and a nondegradable polymeric material.” As discussed previously in Section II., rather than disclosing a nondegradable polymeric material, *Tayebi* is directed to a tracer matrix comprising a degradable material. Accordingly, *Tayebi* does not teach or suggest tracer matrix comprising a nondegradable material and therefore does not teach or suggest each and every limitation of claim 21. Moreover, *Tayebi* clearly teaches away from the present invention.

Thus, Applicants respectfully assert that *Tayebi* fails to form a valid basis for a *prima facie* case of obviousness as to independent claim 21, and correspondingly, as to dependent claim 32. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 103(a) rejection as to dependent claim 32.

C. Claim 38 Is Not Obvious Over *Tayebi* in View of *Parrish*.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Tayebi* in view of U.S. Patent No. 4,055,399 to *Parrish* (hereinafter “*Parrish*”). (Office Action at 4.)

Applicants respectfully disagree because the Examiner has not established a *prima facie* case of obviousness, in that the cited references do not disclose, expressly or inherently, each and every claim limitation. See MPEP § 2142.

In particular, independent claim 21 recites “a tracer matrix that comprises a photoactive material and a nondegradable polymeric material.” As discussed previously in Section II., rather than disclosing a nondegradable polymeric material, *Tayebi* is directed to a tracer matrix comprising a degradable material. Accordingly, *Tayebi* does not teach or suggest tracer matrix comprising a nondegradable material. Moreover, *Tayebi* clearly teaches away from the present invention. Thus, even if *Parrish* teaches the use of multiple tracers in each matrix, *Tayebi* in combination with *Parrish* does not teach a tracer matrix comprising a nondegradable polymeric material. Accordingly, *Tayebi* in view of *Parrish* does not teach or suggest each and every limitation of claim 21.

Thus, Applicants respectfully assert that the combination of *Tayebi* and *Parrish* fails to form a valid basis for a *prima facie* case of obviousness as to independent claim 21, and correspondingly, as to dependent claim 38. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 103(a) rejection as to dependent claim 38.

IV. No Waiver.

All of Applicants’ arguments and amendments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the *Tayebi* reference. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner’s additional statements, such as, for example, any statements relating to what would be obvious to a person of ordinary skill in the art. The example distinctions discussed by Applicants are sufficient to overcome the anticipation and obviousness rejections.

SUMMARY

In light of the above remarks and arguments, Applicant respectfully requests reconsideration and withdrawal of the outstanding objections and rejections. Applicant further submits that the application is now in condition for allowance, and earnestly solicits timely notice of the same. Should the Examiner have any questions, comments, or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone.

Applicant believes that there are no fees due in association with the filing of this Response. However, should the Commissioner deem that any additional fees are due, including any fees for extensions of time, the Commissioner is authorized to debit the deposit account of Halliburton Energy Services, Inc. No. 08-0300, for any underpayment of fees that may be due in association with this filing.

Respectfully submitted,



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Date: September 13, 2006